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MUSEUM OF NATURAL HISTORY PUBLICATION FOR EDUCATORS

VOLUME 28 NO. 2 FALL 2007

UCL 23 2008

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JOINING IN FELLOWSHIP WITH THE HOBBITS

by Matthew W. Tocheri



October 28th, 2004, was a big day for paleoanthropology—the study of human evolution. On that day two papers were published in the scientific journal *Nature* announcing the discovery of what has become known as the “hobbits” of human evolution. With a tiny brain and an estimated height of about three and a half feet, the first hobbit described was an almost complete skeleton recovered from a cave on an isolated Indonesian island. The authors of the *Nature* papers proclaimed that these remains were so different that they represented a new species, *Homo floresiensis*. If that were not remarkable enough, this hobbit was buried deep within the cave and dated to 18 thousand years ago! The shock-waves of this discovery rippled rapidly through the paleoanthropological world as the hobbits took an immediate and well deserved place in the public consciousness.

When I first heard this incredible news, I was standing in a hotel lobby while attending meetings of the Canadian Association for Physical Anthropology. My eyes suddenly caught a

glimpse of a CNN news item trailing across the bottom of a television screen – “New species of tiny humans found on Indonesian island.” I laughed. It had to be a joke. With no other information to go on, I was left somewhat speechless when the item disappeared from the screen without any further follow-up.

Not long after, I ran into some friends who were also attending the meeting and told them of what I had just seen. One of them handed me copies of the *Nature* papers. I sat down and did not flinch until I had read every word. Then I looked up and exclaimed, “Wow! What a wonderful time to be alive!” My friends still make fun of me for my reaction. But if what I had read was really true, then this was one of the most significant events in the entire history of paleoanthropology, and it was all happening while I was a graduate student studying human evolution. Little did I even imagine that my own Ph.D. research, at that time still in an early stage, would eventually bring me face-to-face with these strange hobbits right when I least expected it.

So what exactly is all the fuss about these so-called hobbits? Human fossils have been found regularly for the past hundred years or so. Each of these important discoveries stirs up scientific and public debate. The hobbit discovery, however, has stirred up much more. The main reasons for this

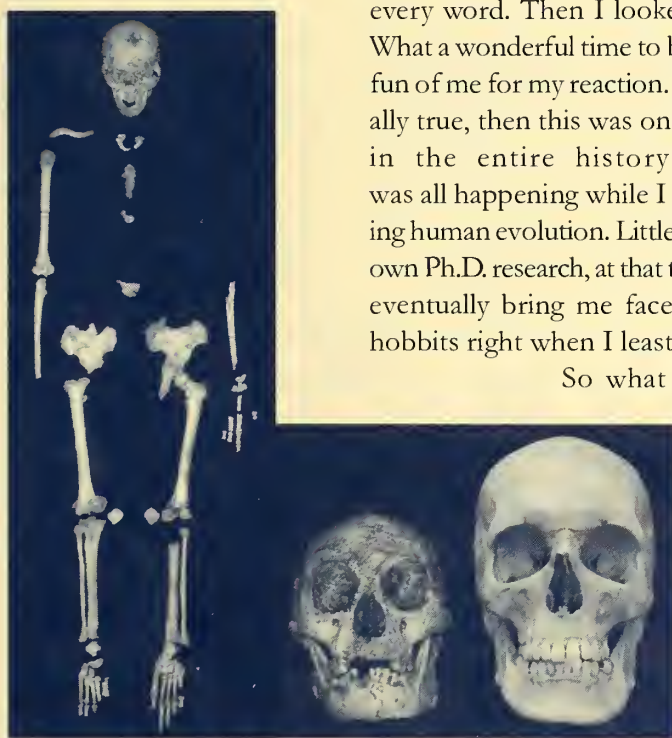


Figure 1. The almost complete skeleton of a hobbit (LB1) (courtesy of Dr. William Jungers). Notice the extremely small skull compared with an adult modern human skull (courtesy Dr. Peter Brown).



are: 1) what they look like (anatomy) (Fig. 1); 2) the objects that are found with them (archaeology) (Fig. 2); 3) where they are found (biogeography) (Fig. 3); and 4) the period of time they are from (geology) (Fig. 4). Their brain is extraordinarily small—less than a third the size of even the smallest modern human brains. They are only about 3 and a half feet tall yet with disproportionately large feet. Stone tools and animal remains are found all around them. Discovered on Flores, a remote island in Southeast Asia, the sediments they come from date to between 95 and 12 thousand years ago, using multiple dating techniques including radiocarbon, luminescence, uranium-series, and electron spin resonance. A completely unexpected discovery! In J.R.R. Tolkien's fictional tale, the hobbits "suddenly became, by no wish of their own, both important and renowned, and troubled the counsels of the Wise and the Great" (1937). These 'real' hobbit fossils have done no less than their fictional namesakes.

In science, trouble fuels controversy, which in turn fuels research. And with research comes answers, or at the very least, reasonable explanations given the available evidence. If the hobbit fossils had been discovered in African sediments dating to around 2 to 3 million years ago, undoubtedly the attention and controversy surrounding them would be far less; more like a television program that airs on a long weekend Saturday afternoon rather than during prime time on a weeknight.

One example is Lucy. The small brain and stature of the most complete hobbit skeleton is fairly similar to that of "Lucy", the most complete skeleton of *Australopithecus afarensis*. Lucy was discovered in Africa in sediments dating to about 3 million years ago. Lucy has fueled her share of controversy over the years because she

showed us that upright walking evolved long before big brains and stone tool use. However, unlike the big controversy surrounding the hobbits, no serious argument has ever been made suggesting that Lucy was a member of our own species with some form of disease, pathology, or growth defect. Instead, Lucy's anatomy is controversial only with regard to which fossil human species she is most closely related to, whom she might be an ancestor of, how exactly she walked on two legs, if she spent a lot of time climbing trees, etc. Her anatomy, in combination with the absence of direct evidence that she used stone tools, is not necessarily unexpected given that she lived in Africa around 3 Ma. But if you take her small brain and stature, add some changes to her teeth and face, and imagine her making and using stone tools on a remote southeastern Asian island as recently as 12 thousand years ago, you guessed it—a huge scientific debate is triggered! Immediately, some very basic ideas about what we thought we knew about recent human evolution are in doubt.

With the discovery of the hobbits, several important questions about human evolution suddenly need reexamination and answers. Are the hobbits really a new human species? Are they pathological representatives of our own species? How and when did they first get to Flores? Unlike Java, Flores has not been connected to the Southeast Asian mainland at any time in the last five million years, and requires two sea journeys (15 miles between the islands of Bali and Lombok followed by 6 miles between Sumbawa and Flores). How did they survive so long after they got there? Did the isolated island of Flores protect them as modern humans began colonizing surrounding islands that were easier to get to? That is what paleo-anthropologists do for a living—they try to answer questions about human



Figure 2. Hobbit stone tools are similar to Oldowan tools in Africa and the Lower Paleolithic in Asia, ca. 2.6 million years ago. They are still made by some human populations today (adapted from Morwood et al. 2004).

evolution based on available scientific evidence. Without a doubt, the hobbits have made for extraordinarily exciting and interesting times for paleo-anthropology.

Forty years before the hobbits burst on to the scene, Louis Leakey showed the first evidence that two fossil human species shared the East African landscape around 1.75 million years ago. Both species walked upright and had small brains, but Leakey argued that only one was a tool-maker. He declared the large cheek-toothed species an evolutionary dead end (known today as *Paranthropus boisei*) while he named the other *Homo habilis*, the tool-making “handy man” and the direct ancestor of our own species. Since the 1960s, however, the human fossil record has continually revealed evidence that for most of human evolutionary history, there have been two or more closely related fossil human species living at the same time. Even our own species overlapped in time with others, like the Neandertals, for instance. Neandertals had big brains and complex stone tools—quite similar to us in many respects—but the last surviving Neandertals disappeared from Europe 30 thousand years ago. For the past 30 thousand years our species has been alone in the world. Or at least, that is what we all thought before the hobbits said hello.

Most estimates about when our own species first began colonizing Southeast Asia and Australia cluster around 50 thousand years ago. The oldest remains of the hobbits, however, currently date as far back as 95 thousand years ago. Everyone was surprised to hear that these remains were that old. I cannot help but imagine the first modern human mariners who landed their rafts on the shores of Flores looking down in the mud and seeing large human-like footprints yet with noticeably short strides alongside a few dis-

carded pieces of flaked stone. Imagination is make-believe, however, and it's time to focus on what we currently think we know about the hobbits.

Currently, there are at least 12 and possibly as many as 15 individuals represented at Liang Bua, the name of the Flores cave in which they were



Figure 3. The island of Flores is east of Wallace's Line. Courtesy of Dr. Michael Morwood.

discovered. This is more anatomical evidence than what is available for many earlier members of the human evolutionary family. While some of these individuals are represented only by one or two pieces of bone or teeth, others such as the most complete specimen (known to scientists as LB1) are represented by many pieces (Fig. 1). What is interesting is that as short as LB1 appears, none of the other hobbit remains look to be any taller than she was.

Thousands of stone artifacts are found around hobbit remains. Although these artifacts were initially described as quite sophisticated, further detailed study has revealed that they represent a basic approach to flaking stone that is observed throughout the past 2.6 million years (Fig. 2). In other words, the stone tools at Liang Bua are broadly similar to the oldest stone tools ever found (e.g., Oldowan-like tools), but unlike the more sophisticated stone tools made by our own species and Neandertals beginning around 200 to 300 thousand years ago.

Biogeographically, the hobbits are also fascinating. Flores is not an easy island to get to despite not being far away from the Asian mainland as well as other surrounding Indonesian islands. Flores is east of the Wallace line (Fig. 3), a biogeographical barrier that has prevented most animal species living west of it to reach areas east of it (and vice-versa). Areas east of the barrier mostly have animals that are of Australian origin, while those west mostly

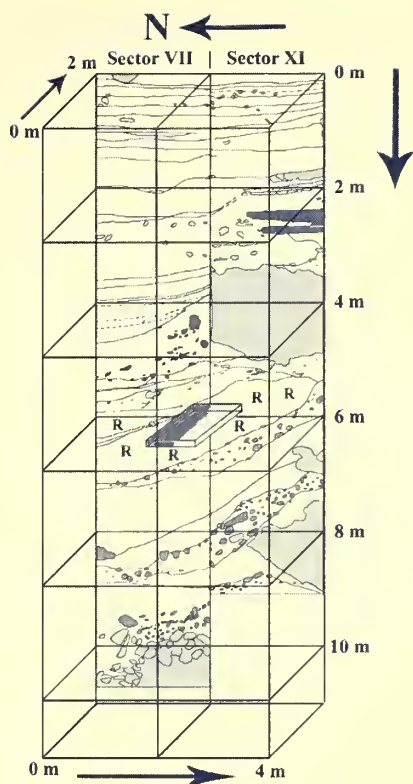


Figure 4. This illustration shows where LB1 was recovered in Liang Bua cave. Sectors VII and XI are 2 by 2 m squares that were excavated to a depth of 11 and 9 m respectively. The 2003 excavation of Sector VII resulted in the recovery of the cranium, mandible, and associated postcranial material of LB1 including the wrist bones (blue area). Subsequent excavation in 2004 of Sector XI resulted in the recovery of additional upper and lower limb elements (yellow area). All of LB1's remains occur within the same layer of clayey silt (Layer R) about 6 m below the surface of the cave. AMS radiocarbon dating of charcoal from Layer R suggests that LB1 died approximately 18 thousand years ago. (Color shown in web version.)

Finally, sediments from different layers in the cave have been dated by several established geological techniques. The various dating techniques give similar results for each geological sample—the oldest layers with hobbit anatomy present are 95 thousand years old, the youngest 12 thousand, and the layer in which LB1 was found, 18 thousand (Fig. 4).

But what about disease, pathology, or growth defect as an explanation for the hobbits? There are still some that remain skeptical that the hobbits represent a separate species of human. Skepticism is an important component

have animals of Asian origin. Ocean currents make it even more difficult to get to Flores. These currents tend to flow away from the island rather than toward it. Over the past million years only a small number of animal species have made it to the island and survived for generations afterward.

of the scientific process because it ultimately leads to better demonstrations that the perceived facts are what we think they are. In other words, skepticism results in better science in the long run.

Skeptics in the hobbit controversy suggest that the hobbit remains more likely represent a population of our own species. They explain the small brain of LB1 as the result of microcephaly—a condition in modern humans that results in an abnormally small brain case. The small body sizes are explained as the result of similar ecological factors to those implicated in modern human populations with small average body size (e.g., African Pygmies). Other explanations involve genetically or environmentally-induced metabolic disorders that cause imbalances in the hormones the body needs to grow properly. Thus, because the Flores population may have been isolated, genetic mutations that result in such imbalances may have become more common.

Needless to say, for two years after the initial hobbit announcement, I followed all hobbit-related news very closely. I admit that I did not have particularly strong opinions about either side of the basic argument—are the hobbits a legitimate new species of human, or are they just small modern humans, perhaps with some form of pathology? Either way, I thought it was fascinating. Even finding a three and a half foot tall adult modern human with microcephaly that lived on a remote island in Southeast Asia 18 thousand years ago is still an extraordinary discovery. So I constantly looked forward to hearing about the next installment on the hobbits, whatever it might be.

In between installments, I went about my business diligently collecting data for my dissertation research, which involved studying wrist bones in living and fossil humans and great apes. This included an entire year going through the skeletal collections at the National Museum of Natural History (NMNH) in Washington, D.C. Night after night, I walked up and down the darkened hallways of the museum carrying trays of human, chimpanzee, gorilla, orangutan, and other primate wrist bones back and forth to my small office for study.

After my analyses were complete, I started writing. Writing was relatively straightforward because my results were quite clear and easy to interpret. I had learned that modern humans and Neandertals have very different wrist bones compared with great apes and other primates. Even the handful of wrist bones from *Australopithecus* (at

~3 mya) and *Homo habilis* (at 1.7 mya) looked more like great apes than like ours and Neandertals. But I knew my research was not going to make headlines easily. This was partly because wrist bones are very small and oddly-shaped, and most paleoanthropologists try to stay as far away from them as they possibly can.

However, that all changed one year ago on November 15, 2006. With my dissertation mostly written, I found myself rushing up to the museum's seminar room to be on time for a "hobbit talk" by Lorraine Cornish, a conservator from the British Natural History Museum. She had been sent to Indonesia to help conserve the hobbit remains so that future researchers would be able to study them. I was thrilled to get to hear someone who had actually seen the hobbit remains up close as well as maybe get to see some photos that had not been published before. Imagine my surprise when all of a sudden Lorraine showed a slide of LB1's assembled skeleton (Fig. 1)! That had not been published and it was the first time I realized that hobbit wrist bones had been found. I literally almost fell out of my chair. Next, she mentioned that she made casts of the wrist bones, choosing them because they were small and she had only brought a small amount of molding material! My blood pressure soared. If that was not enough, within minutes she announced that the small container in front of her had the casts inside! It was unbelievable. Suddenly and without warning I—having spent the last five years study-

ing funny-looking wrist bones—was in the same room as wrist bones from Flores. I don't remember much from the rest of her talk, but as soon as she finished, I rushed up and asked if I could open that container.

As the lid slid off, every wrist bone I had ever looked at flashed before my eyes. I did not expect to see what I did inside that container. What I saw is illustrated in Figure 5. It was obvious. These wrist bones did not belong to a modern human; instead, they looked like the bones of African apes and Lucy—exactly like what you would expect the wrist bones of a primitive human species to look like. The hobbits were for real: another human species that survived at least until 12 thousand years ago, sharing this world with us as close evolutionary cousins. I felt my knees begin to buckle beneath me. There I was, joining a fellowship with a hobbit. In return for telling a part of her species story as I now understood it from her wrist, she would help convince everyone of the importance of the wrist for understanding the recent evolutionary history of our own species.

It was almost as if I was present at the council of Elrond at Rivendell as told by J.R.R. Tolkien himself. Everyone was standing, arguing, and shouting at one another over brain size, tools, and pathologies while the hobbit and I sat silently in the shadows, unnoticed by the others. I like to imagine that she turned to me at that very moment and asked, "So are you ready for a little adventure?" Deep down a part of me always wanted to go on an adventure with a hobbit. Like Samwise Gamgee, the gardener caught eavesdropping by Gandalf outside of Frodo's window, I knew my fate was sealed. There was no turning back—I had seen too much. "Why not," I said, noticeably shaken but excited, "Let's go to Mordor!"

REFERENCES

- Argue D., et al. 2006. *Homo floresiensis*: Microcephalic, pygmoid, *Australopithecus*, or *Homo*? *Journal of Human Evolution* 51: 360–374.
- Brown, P., et al. 2004. A new small-bodied hominin from the Late Pleistocene of Flores, Indonesia. *Nature* 431: 1055–1061.
- Brumm, A., et al. 2006. Early stone technology on Flores and its implications for *Homo floresiensis*. *Nature* 441: 624–628.

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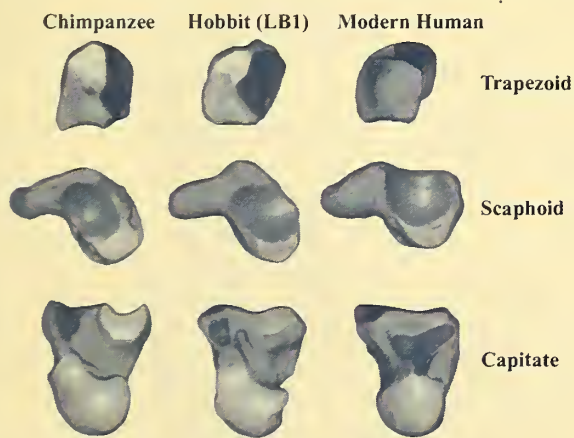


Figure 5. A visual comparison of the hobbit's wrist bones scaled to the same size as those of a chimpanzee and a modern human. The colors indicate the articular and nonarticular bones surfaces.

CHALLENGES IN TEACHING PREHISTORY AND EVOLUTION IN KENYA

by Anne Njenga and Frederick Kyalo Manthi



[Editor's Note: Kenya is one of the very few countries with a long record of fossil discoveries of early human ancestors, dating back to more than 5 million years ago, and there is a need for Kenyan students to know and understand the importance of this early record. In addition, museums, tourist sites, historic conservation projects and scientific research projects need graduates interested in and knowledgeable about prehistory. Furthermore, greater general awareness of the importance of the past can help conserve fossil and archaeological sites and also foster national pride and cohesion. Accordingly, prehistory and evolution are required subjects in the Form I (ninth grade) History curriculum; evolution is also a required part of the Form IV (12th grade) Biology curriculum. Many of the questions from students and teachers in these classes also arise in U.S. classrooms where these subjects are taught. Anne Njenga, who holds Bachelors and Masters degrees in education, is a member of the History Department at Moi Girls [Secondary] School in Nairobi. She presented a version of this paper at a recent workshop on "Human Origins" for Kenyan educators, convened by the Prehistory Club of Kenya, which was established to popularize prehistory among the general public to provide a forum for communication between scientists, museum personnel and the general public, and to enhance learning of life sciences in the schools. The workshop was hosted by the National Museums of Kenya (NMK) and the Kenya Institute of Education (KIE), with sponsorship from the Wenner-Gren Foundation (USA), Heritage (USA), and Colgate Palmolive, Ltd. (Kenya). The KIE is responsible for developing school curricula for Kenya and certifying textbooks, produced by private publishing houses, that meet those criteria. Dr. Frederick Kyalo Manthi of the NMK's Palaeontology Section, who is chairman of the Prehistory Club of Kenya, initiated and led the workshop (ASB).]

Kenya is known all over the world for its rich prehistoric remains. The country boasts of having one of the largest collections of human fossils. This is part of our national heritage of which we are proud, and we are also determined to preserve it. Accordingly, the study of prehistory and evolution is taught in Form I History.

The curriculum has three specific objectives. By the end of the topic, students should be able to:

1. Explain the origin of humans;
2. Identify the stages through which humans evolved; and
3. Describe the cultural and economic practices of early humans.

Accordingly, the curriculum content emphasizes: the meaning and process of human evolution, the stages of human evolution and the stages of cultural evolution during the Stone Age.

In discussing this information with their students, teachers of history have to contend with a number of challenges, both in regard to their personal views and in relation to the curriculum itself and how students react to it.

Our students ask questions and make observations, which may put their teachers in awkward and embarrassing situations: for example:

- Do scientists believe in evolution, or is it just a way of making money and earning a living?
- Are the scientists 100% sure that the fossils they discover are those of early humans or are they early chimpanzees or other apes?
- Is evolution real or a made-up story?
- Do we have to accept it?
- How come apes are still apes while humans evolved?
- Do other animals evolve?
- Is the study of evolution important?
- Where did the ape-like creatures [from which humans evolved] come from?
- At what stage of evolution did different races evolve?
- If humans evolved, does that mean that God did not create the world and humans?
- How come we deny the fact that people in some continents are more brainy than others, yet we talk of overlap in stages of evolution; that is in some parts of the world, human ancestors could be at the stage of *Australopithecus* whereas in another part of the world at the same time, the human inhabitants were *Homo habilis* [a more advanced stage].
- Why do textbooks written by different people sometimes give different information?
- What exactly caused species which were evolving progressively to become extinct?

- What evidence is there that humans might continue to evolve? Just because they evolved in the past does not mean they will continue evolving.
- If evolution is real, doesn't it mean that we should be born ape-like and become human as we grow up?

These questions may not have definite answers even from the most scholarly and are a major challenge for teachers to whom their students look for the ultimate answers.

A second challenge is that the theory of evolution is abstract, and not easily mastered by teachers of history who may not be knowledgeable in some aspects of biology such as genetics. For example, Charles Darwin argued that evolution took place through natural selection and isolation; others noted that mutation and random processes such as recombination, genetic drift or founder effects are also important drivers of evolutionary change. For a teacher of history to explain and illustrate these terms is an uphill task.

Thirdly, to make matters worse, the topic is taught at the form I (9th grade) level, when students have yet to develop higher thinking and argumentative skills that are critical in conceptualizing such an abstract theory.

Students also ask questions relating to the origin of species, which are not explained adequately in the history textbooks. They want information about, for example, the origin of single-celled organisms that lived in water, the emergence of different types of fish, amphibians, dinosaurs and mammals, and the "missing link" where the humans and apes parted ways. Teachers are not well-versed in these details and do not have timetables for the events in question.

Creationism and Evolution

Teachers are also challenged by special creation. More often than not, they have to contend with religious views on creation, widely accepted by world religions such as Christianity and Islam and also presented in traditional myths. Such religious views are simpler and more popular. From early times, religious views have been more convincing, and those going against them or who even suggest alternatives are seen as headed for doom. Students of Form I age are vulnerable to these religious convictions.

In addition, most teachers of history are also responsible for religious education, [a required subject in Kenya in Primary grades as well as in Forms I and II; it is optional in Forms III and IV]] whether Christian (CRE),



Kenyan educators visiting the Olorgesailie archaeological site in Kenya.

Islamic (IRE) or Hindu (HRE) Religious Education. Some students intimidate them with questions such as “Do you believe in God or in evolution?” or “Isn’t evolution just a thought?” Others simply walk out of class. The teachers find themselves unable to reconcile the creation and evolution theories. They appear to the students to have no principles.

Textbook Problems

Kenyan textbooks also present teachers with many challenges. For example, the different approved texts do not agree on the date at which different species of human ancestors evolved, they leave out important information, and give long binomial species names that we teachers may not be able to pronounce with confidence. Sometimes they even present incorrect conclusions. Some examples from our current texts include:

- Inconsistencies between history texts: “*Homo erectus* lived between 2 million and 200,000 years ago” vs. “*Homo erectus* lived between 500,000 and 350,000 years ago.”
- Inconsistencies between the history and biology texts: A biology textbook states that there is no evidence of culture associated with *Australopithecus*, yet in the history curriculum we teach that Oldowan tools were associated with both *Australopithecus* and *Homo habilis*.
- Difficult names: *Australopithecus afarensis*.
- Incorrect conclusions: “*Homo sapiens sapiens* is the modern man, whose evolution brought to an end the struggle for man to better himself.” What does this mean? Should we sum up that human evolution is finished?
- Inconsistencies between secondary curricula and recent scientific journal articles. For example, what is referred to in our curriculum as *Homo habilis* is sometimes called *Homo rudolfensis*.

Additional Issues Raised at the Workshop

As noted by Dr. Emma Mbua, head of Earth Sciences at the NMK, Kenya has very few trained scientists in prehistory and palaeontology and faces difficulties in recruiting university students to study these fields if appreciation of Kenyan prehistory is not nurtured in secondary school. Participants from Uganda, Tanzania, and South Africa, noted similar problems in their countries—in South Africa,



Dramatic performances by a South African theater troupe.

a private foundation supports performances in the schools by a travelling drama troupe, which enacts imaginary encounters with our fossil ancestors in South Africa’s caves.

Discussion centered around two related themes: how best to communicate complicated ideas to students, and how to get teachers the most up-to-date information. In Kenya, many schools and teachers do not have Internet access, and, as David Kyule, lecturer in history at the University of Nairobi, pointed out, much of the information available on the Internet is also out-of-date or incorrect. Researchers do not know how to reach teachers and their students, or may not be interested in doing so, while teachers lack the time to dig the relevant information out of the scientific literature. The NMK and the KIE could each play an important role in getting out the latest information to teachers: the NMK by sending out a regular newsletter to schools and by encouraging the Prehistory Club of Kenya to expand its outreach activities, and the KIE by sponsor-

ing/requiring in-service workshops for teachers to which researchers could contribute. Participants also called for more concrete approaches to teaching prehistory in Form I, including class visits to prehistoric sites, song and dramatization, and more use of teaching aids such as fossil casts. A German Foundation (Uraha) is helping to provide these materials; for each fossil cast ordered by a European institution, the Foundation supplies two duplicate casts to schools in Kenya and/or Malawi.

Summary and Recommendations

As can be seen from the above, Kenyan students are experiencing difficulties in understanding prehistory and evolution for several reasons. They challenge the teachers to be more knowledgeable about this subject and also challenge the curriculum developers and textbook authors to consult more closely with palaeontologists and archaeologists to provide more up-to-date information. Students rarely have a chance to visit a museum or prehistoric site, which would be helpful in making the subject more concrete, and they need teachers to use approaches that would generate more interest in the subject. Many students also feel that prehistory interferes with their faith and should be taught only to those students who want to pursue careers in research. Teachers join with their students in urging scientists, both local Kenyans and international visitors, to carry out more research in Kenya but also to visit schools to popularize prehistory and respond to some of the questions teachers are unable to answer. The Prehistory Club of Kenya is encouraged to continue with the good work it has been doing to provide casts and related artifacts to schools and to organize excursions to prehistoric sites, seminars for teachers, and international discussion forums. We hope that the museum can be brought closer to our schools through this and other avenues. We need to work together to achieve the common goal of establishing the "Where from" and "Where to" of man.

Note: The Prehistory Club of Kenya (website www.prehistoryclubkenya.org) can be reached at prehistoryclub@yahoo.com. Those wishing to join and/or support this organization can contact The Prehistory Club of Kenya, c/o Grants and Programs Officer, LSB Leakey Foundation, San Francisco, CA, 94129. Anne Njenga can be reached c/o Moi Girls School, P.O. Box 43112, Nairobi Kenya.

SOME QUESTIONS AND ANSWERS ABOUT TEACHING HUMAN EVOLUTION

by Alison S. Brooks

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How do we know a fossil is a human ancestor and not just an ape?

Humans have some special characteristics that are not shared by apes. One of the earliest characteristics that differentiates even very early human fossils from apes is bipedalism, walking on two legs instead of four. This creates so many differences in the shape of the pelvis, legs, backbone and even the skull that we can recognize bipedalism in a fossil even when we don't have foot or leg bones. Another characteristic that appears in very early human ancestors is the lack of a large projecting canine tooth—human canines are blunt and project little if at all. The large human brain develops later in human evolution, after 2 million years ago.

How come apes are still apes while humans evolved?

We have very few fossils of African apes from the last 5 million years when humans were evolving, so we do not know what the African apes of that time looked like. We do have fossils of Asian apes that show that they too were evolving. Some of them (e.g. *Gigantopithecus*) became very large, lived more on the ground than in the trees, and developed smaller, less projecting canine teeth. The last of these giant forms lived about 300,000 years ago. We do not know why we find so few fossils of African apes from the last 5 million years (one of the only chimpanzee fossils was found recently in Kenya, near Lake Baringo); perhaps they lived more in dense forests in Central and West Africa that have not been explored for fossils.

Do other animals evolve?

Yes, for example, a close relative of elephants which lived as recently as 5 million years ago had two sets of tusks, two each in their lower AND upper jaws. Even the recent (last 100,000 years) ancestors of today's mammals were often larger and had very different horns, antlers or tusks.

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Where did the ape-like creatures from which humans evolved come from?

This is actually a debated issue because only a few fossils in Africa have been found from between 9 and 5 million years ago. The first apes probably evolved in Africa about 25-30 million years ago from generalized 'higher primate' ancestors, that is tree-dwelling animals with forward-facing eyes, flat grinding molar teeth somewhat like ours, and projecting canine teeth, as well as other features in the ear and elsewhere that are shared with us, the apes, and the monkeys. They spread from Africa to Europe and Asia by about 17-15 million years ago but continued to develop in Africa. (Before this, Africa was an island, separated from the northern continents by a narrow sea called the Tethys, so tree-dwelling primates could not get across from Africa.)

Is human evolution finished?

Humans have actually changed biologically in just the last 15,000 years. Since we invented agriculture and ate softer foods such as porridge, bread, milk and cooked stews, our teeth have become smaller, our muscles are weaker, and our skeletons are less robust. We have also spread to new lands (North and South America, the Arctic) and developed many physical differences in response to the different climates we encountered. We are also developing resistance to many diseases that did not exist in humans before agriculture, such as influenza. Evolution happens when some individuals, who were born with a disease resistance or an ability to withstand a particular stress such as cold winters or low sunlight or crowding survive, and have lots of offspring while others who are not so fortunate have few or no offspring. Even with modern medicine and cultural responses to environmental challenges, there is no reason to think that we will not continue to respond biologically to environmental change.

At what stage did different races evolve?

Whenever a group of humans or animals is isolated from the rest of the species, they may develop characteristics by chance that are not shared with the larger species groups. Some of these characteristics may prove beneficial in the particular environment occupied by the small group. Over time the new characteristics come to dominate the small group, as individuals with those characteristics live longer

and have more offspring. The genetic and archaeological evidence suggests that modern humans (*Homo sapiens sapiens*) evolved in Africa before 200,000 years ago. (The oldest fossils of our species known currently are from the Omo Valley, close to the Kenya-Ethiopia border). They appear to have spread out of Africa between 60 and 40,000 years ago. So the modern "racial differences" especially those characteristics of people living in climates with low levels of sunlight such as very pale skin, hair and eyes, or the cold adaptations in body shape seen in modern Arctic inhabitants have to have developed after this time.

Are people in some continents more brainy than others?

It has been very hard even to define differences in human "braininess," let alone to study the extent to which they are determined by biology as opposed to the environment. Even the "intelligence" measured by typical IQ tests consists of many different abilities that reside in different areas of the brain—spatial visualization, verbal ability, logical or mathematical reasoning, etc., while many types of "intelligence" that are highly valued by our various cultures (e.g. social intelligence, physical coordination and movement) are not measured by these tests at all but may contribute more to a child's future success. When environmental factors (e.g. better nutrition, early education, more visual stimulation, absence of debilitating diseases) are considered, it does not appear that any one continent or even any one people are "brainier" than anyone else.

What caused species that were evolving progressively to become extinct?

There are several reasons why a species may go extinct, many of which are forcing extinctions today all over the world. One is that the environment to which the species is adapted may change so that its characteristics are no longer advantageous or useful. For example, Europe used to have many species of apes, but when the climate began to cool down about 5 million years ago, the types of year-round fruit-bearing forests that apes do well in began to disappear, and so did the apes. A second is that a new competitor is introduced into the species environment that may eat the same foods or nest in the same places but feed or reproduce more successfully or more rapidly. The result is that the newcomer gradually crowds out the older resi-

dents, and the original resident species goes extinct. For example English sparrows and pigeons are now found all over the world, and many local sparrow-like or pigeon-like birds are going extinct. The third possibility is the arrival of a new predator, who may consume eggs, young or adults of an existing species in new ways, until the existing species numbers are reduced to extinction. This is what happened when dogs were introduced to Australia, or when new types of snakes arrived in the islands of the Pacific. Humans are now causing extinctions for all three reasons: changing environments (by deforestation, for example), bringing in competitors (such as cattle) and preying more and more successfully on other species, due to improved hunting and fishing technologies.

If evolution is real, shouldn't we be born apeline and become human as we grow up?

Actually we do something very much like this before we are born. At a very early stage of development, human embryos and chimpanzee embryos are much more similar than the adults are. At one stage, both species' embryos even have a tail, which disappears gradually before we are born.

Is evolution real?

The evidence for evolution is overwhelming. Not only do we have fossil evidence for the ancestral stages of many living animals and plants, but we also have new genetic evidence that underlines the basic unity of all life. (For example, we share about half of our genetic material with a banana! and 98% with a chimpanzee). In addition, we are increasingly able to identify the chain of actual chance "mistakes" or mutations in the genetic material (DNA) that change the activity of each gene and result, for example, in lighter skin, or hairlessness, a longer face or lack of a tail. These chance mistakes are simple (e.g., substitution of one chemical for another on a long chain, or reversal of a small segment of the chain), yet can result in major changes in the body, especially when they affect an important stage in the development of the organism from a single cell or fertilized egg.

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("Hobbits," continued from p. 5)

Falk, D., et al. 2005. The brain of LB1, *Homo floresiensis*. *Science* 308: 242–245.

Falk, D., et al. 2007. Brain shape in human microcephalics and *Homo floresiensis*. *Proceedings of the National Academy of Sciences* 104: 2513–2518.

Jacob, T., et al. 2006. Pygmoid Australomelanesian *Homo sapiens* skeletal remains from Liang Bua, Flores: Population affinities and pathological abnormalities. *Proceedings of the National Academy of Science* 103: 13421–13426.

Johanson, D., and M. Edey. 1981. *Lucy: The Beginnings of Humankind*. Touchstone.

Martin, R.D., et al. 2006. Flores hominid: New species or microcephalic dwarf? *Anatomical Record* 288A: 1123–1145.

Moore, M.W., and A. Brumm. 2007. Stone artifacts and hominins in island Southeast Asia: New insights from Flores, eastern Indonesia. *Journal of Human Evolution* 52: 85–102.

Morwood, M.J., and P. van Oosterzee. 2007. *A New Human: The Startling Discovery and Strange Story of the "Hobbits"*. Smithsonian Books.

Morwood, M.J., et al. 2004. Archaeology and age of a new hominin from Flores in eastern Indonesia. *Nature* 431: 1087–1091.

Morwood, M.J., et al. 2005. Further evidence for small-bodied hominins from the Late Pleistocene of Flores, Indonesia. *Nature* 437: 1012–1017.

Tocheri, M.W., et al. 2007. The primitive wrist of *Homo floresiensis* and its implications for hominin evolution. *Science* 317: 1743–1745.

Tolkien, J.R.R. 1973. *The Fellowship of the Ring*. Allen and Union.

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MORE THAN VIOLENCE: AN ANTHROPOLOGICAL APPROACH TO WARTIME BEHAVIOR

by Stephen C. Lubkemann



It is not surprising that war tends automatically to imply violence. Indeed in his influential treatise on the anthropology of violence, David Riches identifies warfare as nothing more than “violence that is subject to a certain level of organization.” (1986:24).

Analysts of war-torn societies are often consumed by two primary problems: how violence is organized, and how warscape inhabitants handle it. This narrow focus derives less from any empirical investigation, but rather from our pre-conceptions about violence as a determinant of warscape behavior and agency. Violence comes to be treated—either explicitly or by default—as the only concern of consequence to people in warzones. However, this seemingly self evident relationship between violence and war distorts our understanding of the social life and behavior of warzone inhabitants. This article, using fieldwork I carried out in Mozambique during civil war, illustrates this general assertion.

We tend to emphasize only certain capacities of violence—most notably its capacity to “unmake” and “undo,” to disorder, disorganize and destabilize—with little reference to its other possible effects. Most obviously the destructiveness of violence unmakes and takes away life, health, security and property. Similarly the implied violation of the will leads most analysts to interpret wartime migration as *forced* and *involuntary* (Kunz 1973, 1981; Richmond 1988; Indra 1999). Many analysts of warzones emphasize the capacity of violence to produce what Erikson (1995:8) has termed a form of “massive collective trauma” in which the social tissue of the community is damaged in a manner analogous to that of the tortured physical body (Suarez-Orozco and Robben 2000).

This overwhelming emphasis on violence’s capacity to unravel and destroy powerfully shapes how policy-makers, journalists, the broader public, and even many social scientists, think about social processes in war-torn regions¹. Particularly in recent wars, violence is depicted as both hyper-chaotic and incomprehensible. As Paul Richards notes, the predominant images in depictions of these so-

called “new wars” are often “epidemiological,” equating the spread of mass violence with the mindlessness and tenacity of a viral contagion (Richards 2004: 2-3), spilling back and forth across borders and “infecting” entire sub-regions. Cast as sites of uncontrollable and pervasive violence, warzones are viewed as “socially unstable places” in which historically constituted social relations and cultural meanings have been thoroughly “undone” by that violence.

In such “interrupted” societies the social processes and life projects that anthropologists might investigate elsewhere are assumed to have been either rendered irrelevant or suspended. Instead, coping with violence becomes the only social role and task for warzone inhabitants—or at least the only one that their social analysts acknowledge. In the process analysts tend to lose track of—or simply dismiss—all other potential motives that usually shape social behavior. People who are simultaneously “brothers,” “workers,” “neighbors,” and “elders” are recast in reductionist molds, either as “refugees,” whose only recognizable role is to flee violence, or as “combatants,” whose only analyzed role is to perpetrate violence; or as “victims,” whose only role of relevance is to suffer violence.

Case Study: Mozambique

In a study I conducted in Machaze District, in Mozambique, from 1994 to 2002, accounts of a decade and a half of experience with civil war reveal that warzone life was not shaped solely, or even predominantly, with reference to violence. While violence most certainly did play a role in shaping the experience of many Mozambicans who suffered through that country’s long civil war (1977-1992), for most of them violence—or the threat of violence—periodically punctuated their lives rather than continuously scripting them. War was thus not a matter of “all terror all the time.” Everyday social existence in Machaze District in wartime was not just a matter of coping with violence but centered as in peacetime on the pursuit of a complex and

multi-dimensional agenda of social struggles, interpersonal negotiations, and life projects.

Throughout the conflict, gendered, generational, and other forms of social struggle continued to orient behavior—migratory and otherwise. It is primarily with these “other struggles” in mind that individuals imagine, plot out, and enact wartime living. Moreover, this complex array of culturally-constituted social concerns and agendas often had very little to do with the macro-political interests usually taken as the ultimate reason for the armed conflict. In short, to those immersed in it for most of their lives, “war” was about much more than violence or its avoidance.

More specifically, gendered social interests and struggles, largely unrelated to the conflict’s macro-political dynamics, shaped a particular type of wartime behavior—“forced migration”—in Machaze District. “Forced migration” is described as determined by larger forces that are entirely external to refugees themselves, almost as a reflex to the ebb and flow of violence. In Egon Kunz’s description of refugee migration (Kunz 1973, 1981):

An inner self-propelling force is singularly absent from the movement of refugees. Their progress more often than not resembles the movement of the billiard ball: devoid of inner direction their path is governed by the kinetic factors of inertia, friction, and the vectors of outside forces applied on them (1973:131).

The billiard ball model eliminates the need to investigate what refugees actually think about their own predicament by reducing the interest of all “forced migrants” to a singular concern with survival. The model’s principal assumption is that in the face of sheer terror, violence somehow renders all “normal” concerns for engagement in ongoing, culturally-defined, social life-strategies virtually insignificant in shaping behavior. To extend Kunz’s analogy, there is little investigation of whether the “properties” of different balls might determine varying reactions to the cue’s force. Indeed, virtually all aspects of migration processes—directionality, socio-demographic composition, and timing—are to be explained by variation in forces that are external to, and unaffected by, the agency of migrants. In other words, the emphasis in this theory remains centered on the “cue” (i.e. “violence”) rather than the “ball” (i.e. on how the culturally constituted concerns and agendas of

those affected “force” individuals to migrate in particular ways).

In this case study, I demonstrate that patterns of wartime migration in Machaze district cannot be explained with reference to the politico-military dynamics of the Mozambican civil war nor solely in terms of people’s concern with avoiding violence. Rather wartime movement reflected the complex ways in which the inhabitants sought to realize culturally imagined life projects and re-configure social relations. Most particularly, I investigate how the ongoing struggle over how gendered social relations should be defined and configured played a major role in motivating and shaping patterns of wartime migration. By critically exploring how social concerns other than violence itself continued to inform a behavior (migration), often assumed to be most directly and thoroughly determined by violence, I am embarking on a broader critical interrogation of how violence should be positioned in our analysis of all warzone social processes.

Gendered Interests Shape Wartime Migration

Shortly after Mozambique achieved independence from Portugal in 1975, hostile neighboring apartheid regimes instigated a civil war that lasted almost fifteen years. Machaze was one of the earliest settings for this conflict. By late 1979 the area was fully embroiled in the war between the Rhodesian (and later South African) supported anti-government faction (RENAMO) and the government forces (FRELIMO). Estimates suggest that during the conflict between 40% and 70% of the population left the district for South Africa, Zimbabwe, or other internal destinations within Mozambique.

These movements were patterned in highly gender-specific ways. Throughout the war almost twice as many women as men remained in Machaze or in neighboring rural districts. By contrast, most adult Machazian men moved out of the district to the peri-urban areas in South Africa during the first few years of the conflict. To a large extent gendered differences in initial out-migration patterns reflected an attempt by both men and women to perpetuate their social, economic and reproductive strategies under politically or ecologically induced duress.

International migration has played a role in the organization of social life in Machaze for well over a century. Pre-war economies involved a social division of labor between female agricultural labor and male migratory cash-

earning labor. Male migration was virtually universal and was incorporated as an informal and yet strongly socially marked rite of male passage. The vast majority of men spent most of their migratory careers in South Africa. Moreover, international migration had long been the preferred strategy for dealing with the periodic intensifications in colonial labor recruitment and taxation (which the Portuguese levied only against men in this area). The flight of men to South Africa during the beginning of the war thus reproduced established models for dealing with coercive political authority.

Conversely, Machazian women's relocation within the district reflected their preference for rural destinations that allowed them to re-establish some form of subsistence agriculture. Few Machazian women had either the desire or the intention—at least early on in the conflict—to join male relatives in moving out of the district. Most women sought refuge in the densely vegetated interior of the district. Many found that they could cultivate improvised fields in relative safety in areas that were several days travel by foot from the government's communal villages. Believing that they could weather what most expected would be only temporary turmoil, women sought to pursue subsistence agriculture furtively in these isolated areas. Rather than building permanent new homes, most constructed temporary lean-to structures that could be hidden in the bush and quickly rebuilt if they were located and destroyed by marauding troops. Fields were intentionally kept small and cleared by hand (rather than through the more conventional and less labor intensive method of burning) in an effort to conceal their existence from military patrols.

Engendered migratory patterns early in the war are best

seen as attempts to reproduce ongoing social and economic strategies under conditions that, although novel in some respects, were in many ways imagined by the district's residents as analogous to periodic crises in the past. In this sense wartime migration in Machaze—at least initially—represents neither a drastic break with the past nor the new forms of innovation and improvisation that the war's persistence would eventually require.

Starting in 1981, severe drought gripped many parts of Mozambique, devastating agricultural production through three agricultural cycles and rendering basic subsistence a life and death struggle throughout most of the district. By some estimates over 100,000 Mozambicans from the south and center of the country died as a result (Human Rights Watch 1992: 102). As during earlier periods of famine, Machazians moved westward into the highlands near the Zimbabwean border.

Here in the border zone, households developed new cross-border subsistence strategies. A growing number of adolescent Machazian males in these households sought employment across the border in Zimbabwe. However, most Machazian women preferred to remain in Mozambique where greater land availability permitted them to continue to pursue subsistence agriculture. Thus, throughout the mid-1980s, for many Machazian households, the border between the countries became the crossroads for a furtive, yet vigorous form of "commuter migration" carried out by young men who found occasional work in Zimbabwe. These men still maintained continuous contact with their mothers and younger siblings living on the Mozambican side of the border and scratching out a difficult, but still largely self-reliant and independent existence based on subsistence agriculture.

During the late 1980s, new obstacles emerged that rendered these border strategies less viable.



Seeking control over the growing number of Mozambicans within its territory and ways to share the burden of supporting this population economically, the Zimbabwean government allowed the United Nations High Commissioner for Refugees (UNHCR) to open Zimbabwe's first refugee camp (Tongogara) in 1984. At the same time the Zimbabwean military cooperated with Mozambican government forces in a military campaign along the border to crack down on insurgent forces. This action compelled many of the women who had remained settled in Mozambique to finally seek permanent refuge in Zimbabwe where most were forcibly interned in the new refugee camps.

The Woman's Perspective

Once they were interned in these refugee camps, many women deeply resented the loss of decision-making power and independence resulting from their inability to pursue subsistence agriculture. Other than a number of small communal gardens used by international NGOs for agricultural training programs, no subsistence agriculture was possible within the camp's crowded confines. Food and other relief supplies were distributed by international relief agencies to designated "household heads," each allocated an amount that corresponded to the reported number of "dependents" within the household. Many women who in Machaze had been largely self-sufficient were turned into 'dependents' by this system. In Machaze any married woman controlled the use of everything she produced in the fields in which she worked. Women controlled the distribution of food, usually providing for their own and their children's subsistence and for the sustenance of husbands and in-laws. However, in Tongogara, some women found that living in the same "household" with male relatives—husbands, brothers, fathers, or fathers-in-laws—or even with senior wives and mothers-in-law—resulted in a loss of this power to the "household head" who received humanitarian aid for the household as a whole.

If most Machazian women found refugee camps to be a less than desirable option for coping with wartime conditions, many of their spouses greeted the camps as nothing short of a godsend. During the mid-1980s many Machazian men who had fled to South Africa early in the war returned to help family members move into safer areas within Mozambique or across the border to the refugee camps established by the (UNHCR). After returning

alone to South Africa, many of these men continued to send financial support and maintained communication channels with their families in these "surrogate home bases."

The Man's Perspective

However the overwhelming majority of men in South Africa—regardless of whether they visited spouses and other relatives in the UNHCR camps in Zimbabwe, or otherwise sent them assistance—systematically resisted having family members, spouses in particular, join them in South Africa. By keeping dependents, particularly wives, in the UNHCR camps, Machazian men found they could continue pursuing long established life-course strategies that would have been far more difficult should their Mozambican wives join them in South Africa. The humanitarian aid provided in these camps reduced the costs of maintaining families much as subsistence production had done in Machaze. Subsistence cultivation in the South African townships, however, was impossible. The Vaal townships consisted of small houses and shacks, with tiny yards, generally less than ten square meters in area. Even small garden plots or animals were seldom seen. Many men thus argued that having a Machazian wife move to South Africa would drain their earnings because she would become a dependent.

However Machazian men's efforts to prevent their spouses from joining them in South Africa also stemmed from other interests that had little to do with the challenges of economic subsistence in the townships. Throughout the twentieth century, Machazian men's life strategies have depended on rather acute culturally prescribed asymmetries in gender relations that allowed men to exploit women's labor for their own benefit. Machazian men's gendered monopoly on (migration-based) sources of cash played an important role in their ability to control women's labor and foster relationships of female dependence on men. Most men were quite explicit about the importance of preventing their wives from migrating to South Africa in order to keep Machazian women unaware of ways of life that might prompt them to question the established gendered division of labor from which men benefited. As one man put it, "In Machaze there must always be suffering to live. Women must always suffer. If the women from Machaze come to South Africa they will become corrupt like the South African women are. They will always spend

money. Once you feed a dog from a plate it will never again eat off the floor.”

Preventing Machazian women from joining them in South Africa also allowed many men to take advantage of new social opportunities for relationships with South African women that would have been unfeasible otherwise. As the war in Mozambique intensified and eventually started to drag out for years, many Machazian men began to consider the possibility that they might never be able to reconstitute their lives back in Mozambique. For some, the war had disrupted their contact with family members in Mozambique. Even among those who had maintained contact, there was growing recognition that these life-strategies were less secure. Conjugal relationships with South African women became an increasingly attractive option for many men as a strategy of diversifying risk.

However, Machazian men were aware that South African women were not generally receptive to the idea of polygyny (having multiple wives) that was accepted in Machaze. Men also feared that the presence of a Machazian wife in South Africa might reveal that they were Mozambicans and ultimately subject them to deportation. Many had disguised their Mozambican identity from their South African partners, often claiming to be from the Giyani area in South Africa. Such identity management would have proven far more difficult if Machazian wives came to reside with them in South Africa. Finally, some men also feared that their Machazian wives would become discontented at discovering their South African counterparts and that *uloi* (witchcraft) would result from jealousy among their wives.

Consequently, most men went to considerable lengths to prevent their Mozambican wives from joining them in South Africa during the war. Some refused to respond to letters from spouses who requested assistance that would allow them to join their husbands in South Africa, sometimes under the pretext that they had never received these letters in the first place. Others provided dubious and misleading reasons why spouses should not come to South Africa, or else promised what eventually became indefinitely delayed assistance.

Prolonged War and Women's Social Fertility

The same strategies that allowed Machazian men to guard, and in some ways even enhance, their security and long-term social options had very different consequences for the Machazian women who remained in Mozambique or

Zimbabwe. In particular, prolonged spousal separation during the war had highly gender-differentiated effects on social life and reproductive strategies. In Machaze, fertility (i.e. having children) was one of the most important life-course objectives for both Machazian men and women to realize. Yet, while both Machazian men and women benefited from the status and assistance that children provided, women were far more dependent than men on children for their old-age security. Unlike women, older men did not have to rely solely on children because the social practice of polygyny allowed them to obtain the social and domestic support they needed by marrying additional—and much younger—wives. However, Machazian women had no such options and consequently could only rely on children for old age support since older widows rarely had any prospects for remarriage. In short, in Machaze a woman's fertility was much more critical to her old age security than it was for most men.

However fertility was gender-differentiated not only in terms of its importance to Machazian life-strategies but also in its temporality. The longer biological timeframe over which men could viably reproduce, coupled with cultural prescriptions that allowed Machazian men to have multiple wives, meant that men's fertility could span several decades—in fact virtually their whole lives². However, Machazian women relied solely on their own fertility in order to secure culturally-prescribed rights in children. Their own biology thus provided them with a window of opportunity for the social project of fertility that was thus far more temporally circumscribed than for men.

As spousal separations grew longer throughout the war, a growing number of Machazian wives faced a significant dilemma. Women could remain faithful to long absent or missing husbands but with the long-term consequence of having fewer or no children. Alternatively wives could have sex with men other than their long absent husbands, allowing them to bear the children that were essential to securing their future security. However, this latter option involved violating cultural prescriptions that made divorce more likely and placed their future claims on these children at risk because the lobola (bridewealth) that a husband's kin had paid to the wife's kin ensured the husband's right to the woman's offspring.

This dilemma grew more acute for more women over the course of the war's fifteen year duration—a period that represented for many Machazian women much

of the limited time-span to realize their own fertility in order to secure their future well-being and security. The duration of the war was even more significant when we consider the “fertility work” that most Machazian women aimed to accomplish in their lifetimes. Most women whom I interviewed expressed a desire for at least six children and were particularly concerned with having more than one son: “Three and three is good (three children of each gender) because then you will know that at least one will have concern for you in his heart when you grow old.”

Far from remaining passive, women who confronted this dilemma responded in a variety of different ways as the war wore on. For the vast majority of these women, having children was an overriding concern in the decisions they made about how to invest in and manage social relations. Ultimately no more than a handful of the women who spoke with me had apparently been willing to forgo their own biological fertility altogether during the war. A common strategy among the women, who remained in the communal villages in Machaze and were the most likely to be isolated from spouses for long periods throughout the war, was to establish conjugal relationships with government soldiers. Women explained that they favored such relationships for several reasons, one being that in relationships with soldiers they were less likely to be subjected to sanctions by their husband’s kin because these relatives feared the military.

For many of the women who confronted this dilemma, wartime decisions about where to relocate and with whom to resettle reflected their desire to escape the social vigilance, pressure, and disapproval that would hinder their attempts to engage in extra-marital unions allowing them to bear children. After the war had ended many of these Machazian women found their rights to children born out of wedlock contested by a returning husband or his relatives. Contingencies, such as prolonged absence, were often considered by “traditional authorities” who arbitrate most such disputes. However, even in the best cases, resolution generally required that a divorced wife repay some portion of the *lobola* (bridewealth) in order to maintain rights in some of her children. A woman’s relatives often proved reluctant to assist her with such costs, particularly if they felt that the woman engaged in liaisons or migrated against their wishes during the conflict. A number of such women who had never left Machaze itself during the war actually fled the district to the city of Chimoio *after* the civil war

was over in order to avoid such claims on their children. Many others who had resettled in Zimbabwe chose not to return to Machaze because of the same fear.

Re-thinking War as a “Social Condition”

The decision-making of warscape inhabitants is usually portrayed as a process that is dominated by an all consuming concern with “basic survival,” largely unaffected by “higher order” needs, unshaped by culture, and uninformed by a past that is presumed to have been rendered irrelevant by the immediacy of terror. However, as the analysis above has sought to demonstrate, Mozambican migration decisions in wartime were continuously and complexly informed by multidimensional social agendas and culturally-constituted concerns—including the struggles over maintaining socio-economic autonomy, how to configure gendered relations and power configurations within marriage, and how to secure long-term life security through vital life projects such as child-rearing.

While acute violence plays an undeniable role in shaping the experience of warzone inhabitants, it usually punctuates the lives of warzone inhabitants periodically rather than continuously scripting them. This is particularly likely to be the case in prolonged wars that drag on for decades and span generations—as was the case in Mozambique—but also in a growing number of other persistent conflicts worldwide³—including the field sites of my current research in Liberia and Angola. While awareness of the potential for violence may lurk in the back of everyone’s minds and occasionally leap to the fore, during the long uneasy lulls that consumed most of their time over the course of fifteen years, the warzone inhabitants are not singularly consumed by a concern with violence. In fact, rather more of their time is spent focused on the challenges of everyday social and material existence. Thus, in Machaze, throughout most of the war, fields were tended, albeit more watchfully, firewood was gathered, albeit on paths walked more carefully, and children were raised, albeit more cautiously.

Ultimately if we want to understand the behavior and experience of warscape inhabitants, I argue that it is vitally important not to depict war as simply the sum of experiences of acute violence. Indeed, to construct depictions of war as a condition by merely stringing together episodes of acute violence is to misrepresent the actual conditions that warscape inhabitants confront—it is a dis-

tortion akin to that of the typical movie trailer that artfully misrepresents the pace and scope of a drama by stringing together the moments of most garish action while neglecting the more mundane bulk of the narrative.

My primary point is that all aspects of social existence in war are constituted often as much by the conduct of everyday social struggles and concerns as by the "problem of violence." The lives of warscape inhabitants insist on being lived in their full social complexity rather than being suspended or recast in reductionist terms.

Consequently, anthropologists should take the realization of culturally-specified everyday, and strategic-life projects, rather than the "problem of violence," as our primary analytical object and point of departure for investigating the experience and behavior of refugees and other warzone inhabitants.

(Footnotes)

¹ Africa in particular has become virtually synonymous with these "new wars" and the social existence of millions of its inhabitants as centered around and singularly determined by war-generated violence that seems thoroughly unpredictable, arbitrary, and irrational.

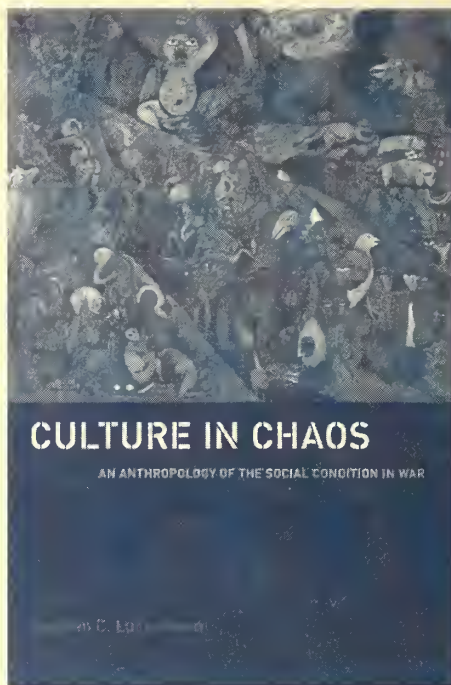
² By way of example I met several men whose sons (by different wives) had over 40 years of difference in their ages. In one remarkable case a man even had two great-grandchildren (children of a son of his eldest son) who were actually older than his own youngest child who had been born but a few months before I interviewed him!

³ E.g. Angola, Sudan, Chechnya, Liberia, Sierra Leone, Uganda, Rwanda, Democratic Republic of Congo, Burundi, Somalia, Chad, Colombia, Afghanistan, Burundi.

[This article was adapted from Stephen Lubkemann's new book *Culture in Chaos: An Anthropology of the Social Condition in War*, University of Chicago Press 2007.]

REFERENCES

- CARE (Cooperative for Assistance and Relief Everywhere). 1994. "Baseline Nutritional Survey-Machaze District (March, 1994)." *CARE International Report*, Maputo, Mozambique.
- Erikson, Kai. 1995. "Notes on Trauma and Community." In C. Caruth, ed., *Trauma: Explorations in Memory*. Johns Hopkins University Press.



Feldman, Allen. 1991. *Formations of Violence: The Narrative of the Body and Political Terror in Northern Ireland*. University of Chicago Press.

GTZ (Deutsche Gesellschaft fuer Technische Zusammenarbeit). 1993. *Projecto de Reintegracao, Reassentamento e Reconstrucao do Distrito de Mossurize*. Chimoio, Mozambique: GTZ-MAARP.

GTZ. 1996. *Conflict Driven Migration, Post-Conflict Reintegration, and Rehabilitation 1984-1996*. Chimoio, Mozambique: G.T.Z.-MAARP.

Indra, Doreen. 1999. "Not a Room of One's Own: Engendering Forced Migration Knowledge and Practice." In D. Indra, ed., *Engendering Forced Migration: Theory and Practice*. Berg.

Kunz, Egon F. 1973. "The Refugee in Flight: Kinetic Models and Forms of Displacement." *International Migration Review* 7(1): 125-146.

Kunz, Egon F. 1981. "Exile and Resettlement: Refugee Theory." *International Migration Review* 5(1): 42-51.

Lubkemann, Stephen. 2000a. "Situating Wartime Migration in Central Mozambique: Gendered Social Struggle and the Transnationalization of Polygyny." Ph.D dissertation, Department of Anthropology, Brown University, Providence, RI.

Lubkemann, Stephen. 2000b. "The Transformation of Transnationality Among Mozambican Migrants in South Africa" *Canadian Journal of African Studies* 34(1): 41-63.

Lubkemann, Stephen. 2000c. "Other Motives, Other Struggles: Gender Politics and the Shaping of Wartime Migration in Mozambique." In E. Godziak and D.J. Shandy, eds., *Selected Papers on Refugees and Immigrants VIII*. American Anthropological Association.

Lubkemann, Stephen. 2000d. "Sociocultural Factors Shaping the Mozambican Repatriation Process." In S. Lubkemann, L. Minear, and T. Weiss, eds., *Humanitarian Action: Social Science Connections*. Watson Institute for International Studies.

Nordstrom, Carolyn. 1997. *A Different Kind of War Story*. University of Pennsylvania.

Richards, Paul. 2004. "New War: An Ethnographic Approach" In P. Richards, ed., *No Peace, War: An Anthropology of Contemporary Armed Conflicts*. Ohio University Press.

Riches, David. 1986. "The Phenomenon of Violence." In D. Riches, ed., *The Anthropology of Violence*. Basil Blackwell.

Richmond, Anthony. 1988. "Sociological Theories of International Migration: The Case of Refugees." *Current Sociology* 36(2): 7-26.

Suarez-Orozco, Marcel. 1992. "A Grammar of Terror: Psychocultural Responses to State Terrorism in 'Dirty War' and Post "Dirty-War" Argentina." In C. Nordstrom and J. Martin, eds., *The Paths to Domination, Resistance and Terror*. University of California Press.

Suarez-Orozco, Marcelo, and Antonius Robben. 2000. "Interdisciplinary Perspectives on Violence and Trauma." In A. Robben and M. Suarez-Orozco eds., *Cultures Under Siege: Collective Violence and Trauma*. Cambridge University Press.

Tambiah, Stanley. 1986. *Sri Lanka: Ethnic Fratricide and the Dismantling of Democracy*. University of Chicago Press.

Taylor, Christopher. 1999. *Sacrifice as Terror: The Rwandan Genocide of 1994*. Berg.

Uvin, Peter. 1998. *Aiding Violence: The Development Enterprise in Rwanda*. Kumarian Press.

Wenzel, Hand-Joachim, and James Bannerman. 1995. "Manica Province, Mozambique: Population Structures and Migration: Modern Development Trends." *GTZ Report on Integrated Rural Development Strategy Plan*. Osnabruck, Germany.

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Council for Museum Anthropology

Have you ever visited a museum and, looking at ordinary tools and scenes of living or at creations of art or archaeological remnants, found yourself deeply moved about your fellow humans in their infinite variety? Such "ah-ha!" experiences have evolved, for some of us, into serious dedication to museums as endlessly fascinating places of Culture and cultures.

Whether a professional or a part-time anthropologist who teaches, curates or writes in museum contexts, you should know that you have a friend and tutor—the professional support organization known as the Council for Museum Anthropology (CMA).

The Council is an all-volunteer membership group, a section of the American Anthropological Association, which fosters the development of anthropology in the context of museums and related institutions. It widely informs concerning cultural collections, exhibitions, outreach and theory in the field. In its publications, on-line and at annual meetings and special seminars, CMA addresses such ongoing concerns as representation of native peoples, care of collections and research support.

Members receive twice yearly the journal, *Museum Anthropology*; a monthly column of news and concerns in *Anthropology News*; and the new on-line weblog, <http://museumanthropology.blogspot.com>

For a sample, go to the weblog (above). You will see newsworthy museum stuff as well as scholarly articles previously published in *Museum Anthropology* and now under discussion. Current preoccupations range from "What is materiality?" to southwest African baskets and one of the MacArthur Award recipients, an Alaskan Native museum director.

To join, first bite the bullet and become a member of the American Anthropological Association (information and forms at www.aaanet.org). Student rates vary from \$20 to \$65, Associates pay \$120 and Professional Members start at \$125. Second, pick CMA section membership, \$20 for students and \$35 for regular members. Welcome!

Joyce Herold
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